

Application No. 10/711,476
Technology Center 2878
Amendment dated February 22, 2007
Reply to Office Action dated November 22, 2006

REMARKS

In the Office Action, the Examiner reviewed claims 1-24 of the above-identified US Patent Application, with the result that all of the claims were rejected under 35 USC §103. In the present response, Applicants have amended the specification and claims as set forth above. More particularly:

The specification has been amended at [Para 21] to correct a typographical error.

Dependent claims 8 and 19 have been amended to recite a limitation that finds support in Applicants' specification at the first sentence of [Para 22].

Dependent claims 11 and 22 have been amended to recite a limitation that finds support in Applicants' specification at the first sentence of [Para 25].

Applicants believe that the above amendments do not present new matter. Favorable reconsideration and allowance of claims 1-24 are respectfully requested in view of the above amendments and the following remarks.

Rejections under 35 USC §103

Independent claims 1-24 were rejected as being unpatentable over U.S. Patent No. 6,828,543 to Chen in view of one or more of the following

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additional references: U.S. Patent No. 6,518,656 to Nakayama et al.
(Nakayama), U.S. Patent Application Publication No. 2002/0057468 to Segawa
et al. (Segawa), U.S. Patent No. 6,395,124 to Oxman et al. (Oxman), and U.S.
Patent Application Publication No. 2003/0214024 to Ono. Applicants
respectfully request reconsideration of these rejections in view of the claims as
amended and the following comments.

Chen was cited against independent claim 1 for disclosing, among
other things,

a housing (40) having an opening through which light enters the
housing; a first substrate (20) coupled to the housing [40], the first
substrate [20] defining a window formed of a material that is at least
semitransparent to light of a predetermined wavelength, the window
being aligned with the housing [40] so that light passing through the
opening of the housing [40] also passes through the window (column
2, lines 58-61, column 4, lines 15-25); a second substrate (50,21) on
a surface of the first substrate [20] oppositely disposed from the
housing [40], the second substrate [50,21] comprising electrical
conductors (21) and having an opening that is aligned with the
housing [40] so that light that passing through the housing [40] and
the window of the first substrate [20] also passes unimpeded through
the opening (column 3, lines 7-10, column 4, lines 5, 22-25); . . . an
opaque layer (24) surrounding the opening of the second substrate
[50,21] and coinciding with an edge of the opening, the opaque layer
[24] preventing light from entering the module through the second
substrate [50,21] (column 3, lines 10-18).

Regarding dependent claim 4, Chen was cited for disclosing that "the opaque
layer [24] is carried by and bonded to the second substrate [50,21] (column 3,

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lines 7-14)." Chen was similarly applied against independent claim 14, but with the opaque layer 24 being described as "on the flexible substrate [50] [and] . . . preventing light of the predetermined wavelength from entering the module through the flexible substrate [50]."

However, Chen does not show or describe the opaque layer 24 as being carried by or bonded to the second substrate / flexible substrate 50, but instead shows and describes the opaque layer 24 as being carried by and bonded to the first substrate 20 ("[t]he periphery and the bottom face of the glass plate (20) are covered with an opaque mask (24)"; column 3, lines 10-11). Furthermore, Chen's opaque layer 24 does not prevent light from entering the module through the second substrate / flexible substrate 50, but instead Chen shows and describes the opaque layer 24 as preventing light from entering the module through the first substrate 20 ("[t]he opaque mask (24) can prevent the light from entering the glass plate (20)"; column 3, lines 10-18).

Regarding dependent claims 8 and 19, Chen was cited for disclosing an underfill material 12 that underfills the chip 10 and fills gaps between electrically-conductive connections 13. However, Chen's underfill material 12 does not completely fill the gap between the chip 10 and the first substrate 20, as now required by amended claims 8 and 19. Instead, the gap between Chen's chip 10 and first substrate 20 is empty.

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Regarding dependent claims 11 and 22, Chen was cited for disclosing that "the first substrate [20] is disposed within a second opening of the housing [40] and is surrounded by the portion of the housing [40]." However, Chen's first substrate 20 is not entirely accommodated within the second opening of the housing 40, as now required by amended claims 11 and 22. Instead, Chen's first substrate 20 protrudes outside the housing 40, which is necessary to enable electrical contact between Chen's electrical conductors 21 and second substrate / flexible substrate 50 (column 4, lines 22-25).

In view of the above, to arrive at Applicants' invention one skilled in the art would be required to modify the teachings of Chen. However, none of Nakayama, Segawa, Oxman, and Ono were applied as supplementing the teachings of Chen in a manner that would result in Chen being modified to arrive at the features of Applicants' invention discussed above. Therefore, Applicants respectfully request withdrawal of the rejections under 35 USC §103(a).

Closing


In view of the above, Applicants believe that the rejections to their claims have been overcome, and that the claims define patentable novelty over all the references, alone or in combination, of record. It is therefore respectfully

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requested that this patent application be given favorable reconsideration.

Should the Examiner have any questions with respect to any matter
now of record, Applicants' representative may be reached at (219) 462-4999.

Respectfully submitted,

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